Module 5 Tab Goes Here

Brake System Safety Standards for Freight

Subpart E - End-of-Train Devices

Module Objectives

- Recognize proper installation, inspection and testing of End of Train devices

Subpart E

- Scope – 232.401
- Design standards 1-way end-of-train devices – 232.403
- Design and performance standards for two-way end-of-train devices – 232.405
- Operations requiring use of two-way end-of-train devices; prohibition on purchase of nonconforming devices – 232.407
- Inspection and testing of end-of-train devices – 232.409

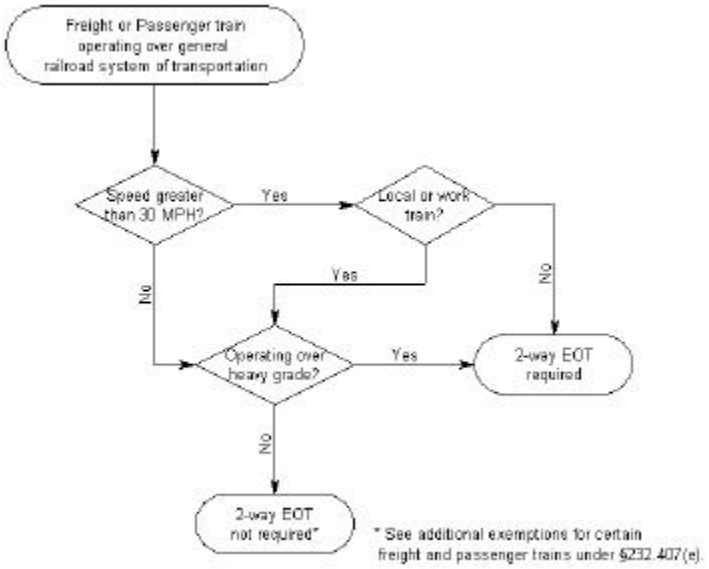
Scope

Subpart E applies to all trains, freight and passenger, operating on the general system of transportation, unless expressly excepted.

Design and performance 2-way Significant changes

- Permits the manually “emergency” operated switch to be either located on the front device itself or on the locomotive control stand.
- Requires locomotives ordered on or after 8/1/01, or placed in service for the first time on or after 8/1/03, to automatically activate emergency feature on EOT when engineer places train in emergency with automatic brake valve. In other words the emergency application of brakes must propagate not only from the head-end, but from the rear-end of the train as well.
- Regardless of built date, each controlling locomotive must be equipped with a manually “emergency” operated switch as discussed above in the first bullet.

Operations requiring use
Flowchart review



Operations requiring use Significant changes

- Dispatching of trains with unarmed 2-way EOT's due to "dead spots" is permitted at certain locations provided train operates at restricted speed for distance not to exceed one mile in order to establish communication.
- Incorporation of Safety Advisory 98-2 recommendation requiring activation the 2-way EOT emergency activation switch whenever it becomes necessary to initiate and emergency application of air brake using either the automatic brake valve or conductor's emergency brake valve.

Two-way EOT Discussion

- See matrices

Two-Way EOT Inspection & Testing Significant changes

Requires:

- Record of functional capability test provided to engineer at point of installation or initial terminal if function test is conducted by person other than member of the train crew.
- The record can be written or electronic, containing the date, time, location and name of person conducting test, and maintained in the cab of the controlling locomotive.
- Calibration of both front and rear units in accordance with manufactures specifications.
- Calibration information sticker to be affixed on the device where both FRA and railroad personnel can easily access the information.

Two-Way EOT Inspection & Testing Significant changes continues

Permits:

- An extension from 365 days between EOT calibration to 368 days.
- Shelf life (calibration) of up to 92 days for front unit.
- Documenting calibration of front unit on 49A card provided serial number of unit is included.

Testing

- Each device that will be used on the train (front & rear), must be armed and tested at the point of installation or initial terminal before the train departs.
- Testing includes the following:
  - Charging BP and comparing quantitative values.
  - Initiating a emergency application from the rear by activating the emergency function switch on the front unit.

Bench testing

Bench testing is acceptable provided tests are performed in accordance with MP&E TB 98-63.

End of Module 5

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